

### III. Gather Data

#### A. Wind Speed on Lake Erie

- Click on the "Lake Erie Wind Speed" site.

1. Predict which areas of Lake Erie will have the highest waves. Record your answer as a written description of the location relative to other parts of the lake.

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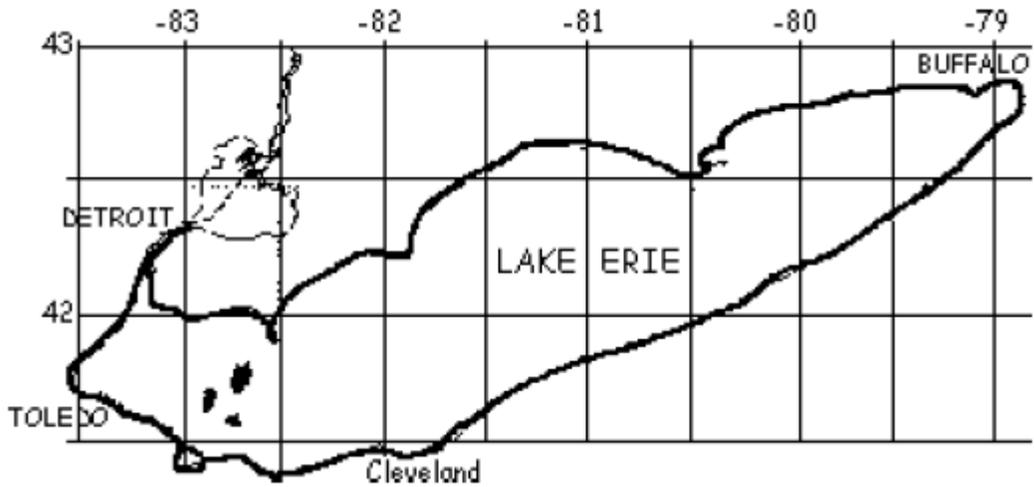
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2. Draw the area of highest waves on the map of Lake Erie.





3. Why do you think these areas will have the highest waves?

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4. Convert the highest wind speed from knots to miles per hour. (One knot is 1.15 miles per hour.)



- Click "Back" to return to the Great Lakes "Gather Data.1" web page.
- Click on the "Lake Erie Wave Height" site.

## B. Wave Height and Direction

1. Check on you prediction in #1 above. Was your prediction correct?

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2. How many feet high are the highest waves on Lake Erie?  
(one foot = 12 inches, one meter = 100 cm, one inch = 2.54 cm)

- Click "Back" to return to the Great Lakes "Gather Data.1" web page.

## C. Water Surface Elevation

- Click on the "Lake Erie Water Surface Elevation" site.
- This map uses elevation like a topographic map. Elevation means height above sea level. Higher elevations are higher above sea level.

1. What part of Lake Erie has the highest water elevation?

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2. What part of Lake Erie has the lowest water elevation?

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3. What is the direction of water flow in Lake Erie?

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4. What is the total difference in water elevation from the northeast end of Lake Erie to the southwest end?

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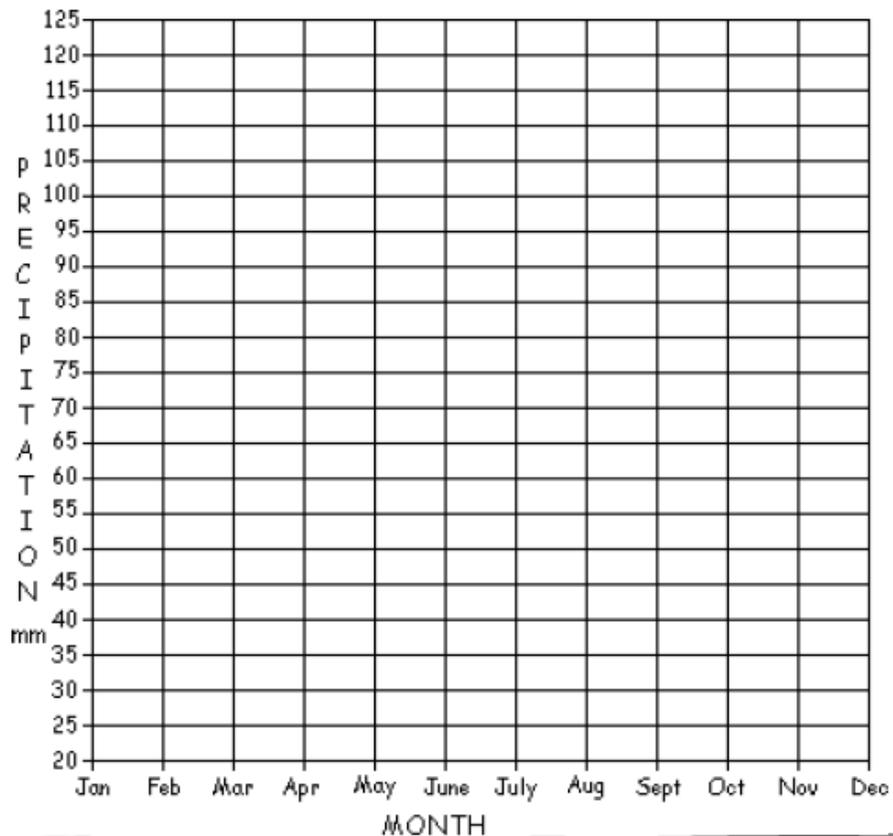
- Click "Back" to return to the Great Lakes "Gather Data.1" web page.
- Click "Forward" at the bottom of the page.

### D. Graphing Overland Precipitation



- Click on the "Lake Erie Precipitation" site.

1. Graph the precipitation during 1900.





- Click "Back" to return to the Great Lakes "Gather Data.2" web page.

### E. Temperature Changes with Depth



- Click on the "Lake Ontario Vertical Temperature" site.  
- This map shows you the water temperature at various depths of Lake Ontario. The picture in the right lower corner shows the whole lake with lines drawn where the four cross sections are taken.



1. What is the coldest water temperature in Lake Ontario? \_\_\_\_\_
2. What is the range of depth at which the water is 8 degrees Celsius at cross section "C"?

\_\_\_\_\_ meters to \_\_\_\_\_ meters

- Click "Back" to return to the Great Lakes "Gather Data.2" web page.

### F. Effects of Foreign Species on Local Animals



- Click on the "Health Indicator" site.  
- Click on the "amphipods" link to see what an amphipod looks like.  
- Read the information and answer the following questions.



1. How is the "health" of Lake Michigan's water life populations measured?

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2. Why does the lack of amphipods affect the fish population?

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3. What do amphipods eat?

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4. Why do you think the amphipods are disappearing?

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- Click on and read the "Diporeia" site.
- Scroll down to the blue and white maps of the Diporeia population in Lake Michigan and answer the following questions.

5. When you compare the maps from different years, what can you infer (figure out) about amphipods' population? (Diporeia is a type of amphipod.)

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6. Why is it important to measure seemingly unimportant things such as the number of invertebrates in the mud at the bottom of lakes?

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7. How do scientists make maps like these?

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- Click "Back" to return to the Great Lakes "Gather Data.2" web page.
- Click "Forward" at the bottom of the page.

### **G. Zebra Mussels - A Closer Look**

- Click on the "Zebra Mussel" site.
- Scroll to the "Impacts" section, read the information and answer the following questions.

1. What problems do Zebra mussels cause?

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2. What good things have happened due to Zebra mussels?

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- Scroll down to the "Methods of Control" section.

3. List the three methods of control you think are best. Write why you think these are the best methods.





Method

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Why each method described above is best

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_



- Click "Back" to return to the Great Lakes "Gather Data.3" web page.
- Click on the "Zebra Mussels Biofouling" site to see examples of Zebra mussels biofouling and living on other mussels. This picture shows how Zebra mussels can block water pipes.
- Click the "Next slide" button. This picture shows how Zebra mussels live on and kill native mussels.
- Click "Back" to return to the NOAA Research "Great Lakes" main page, or choose "Great Lakes" from your Bookmarks or Favorites.
- Click "Application."